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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,087	07/26/2001	Robert Tso	ST00011USU2(100-US-US)	7956

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EXAMINER	
CORRIELUS, JEAN B	
ART UNIT	**PAPER NUMBER**
2611	

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/916,087	TSO ET AL.	
	Examiner	Art Unit	
	Jean B. Corrielus	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 12-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 12-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3-7, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woo et al US Patent No. 6,125,135 in view of applicant's admitted prior art page 8,lines 7-10.

Woo et al discloses a Global Positioning System (GPS) receiver (fig. 1), comprising: a Radio Frequency Front End encompassed by elements 103 and 106, comprising: single stage downconverter 103 using dual mixers 205 and 206; an I/Q intermediate Frequency (IF) active filter (210 and 211), coupled to the downconverter 103; an Automatic Gain Control (AGC) amplifier 215-222, coupled to the downconverter 103; an analog-to-Digital Converter (ADC) 223-224, coupled to the AGC amplifier (215-222; and a frequency synthesizer section (225) inherently including an integrated Voltage Controlled Oscillator; and a digital processing section (111 and 112), coupled to the RF Front End. However, Woo et al does not explicitly teach that the IF filter is an active filter it also fails to teach that the noise bandwidth of the GPS receiver is set by the IF active filter. However, configure the IF filter as an active filter is old and well established in the art given that, it would have been obvious to one skill in the art to configure Woo et al as an active type filter as such filter consumes less chip area as

oppose to regular type filter. Furthermore, applicant 's admitted prior art at page 8, lines 7-9, teaches that it is well known in the art to set a noise bandwidth of a GPS receiver using a filter. Given that fact, it would have been obvious to one skill in the art to use the filter of Woo to set the bandwidth noise of the receiver in order to limit unwanted out of bands signals.

As per claim 3, it would have been obvious to one skill in the art to use generate output signals from the RF front end compatible with PECL as PECL are known in the art to generate high speed high speed output signals.

As per claim 4, it would have been obvious to one skill in the art to configure Woo and applicant's admitted prior art to include an acquisition signal generated by the frequency synthesizer in order to control received signal acquisition.

As per claim 5, it would have been obvious to one skill in the art to set the frequency acquisition to approximately equal to 37.3333f0, where f0=1.023MHz so as to satisfy system design requirements.

As per claim 6, it would have been obvious to one skill in the art to include a GPS clock output from the synthesizer in order to synchronize the receiver with the transmitting station.

As per claim 7, it would have been obvious to one skill in the art to set the GPS clock signal to approximately equal to 48f0, where f0=1.023MHz so as to satisfy system design requirements.

As per claim 15, the GPS receiver includes an antenna 101 (external antenna assembly).

As per claim 17, it would have been obvious that the RF front end would have included an external loop filter so as satisfy system design requirements.

3. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woo et al US Patent No. 6,125,135 in view of applicant's admitted prior art page 8,lines 7-10 and further in view of Ciccarelli et al, US Patent No. 6,359,940.

As per claim 2, Woo and applicant's admitted prior art teaches every feature of the claimed invention but does not teach the further limitations of a Low noise Amplifier (LNA) coupled to an RF band select filter, which is coupled to an RF input of the front-end. In the same field of endeavor, Ciccarelli et al teaches fig. 1 the further limitations of a Low noise Amplifier (LNA) coupled to an RF band select filter 14, which is coupled to an RF input of the front-end see fig. 1. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Woo and admitted prior art in order to amplify and select the signal of interest for further processing.

As per claim 16, note that Ciccarelli et al teaches a band pass filter 14. The reason to combine would have been the same as provided above in reference to claim 2.

Claim Objections

4. The objection to claims 2 and 12-14 is withdrawn on light of the amendment filed on 1/26/06.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-7 and 12-18 are rejected under the judicially created doctrine of obviousness-type double Patenting as being unpatentable over claims 1-12 and 16-21 of U.S. Patent No. 6,856,794 (Tso et al) in view of Woo et al US Patent No. 6,125,135.

Claim 1 of Tso substantially claims the same invention as claim 1 of the application except that it fails to teach a DSP section coupled to the RF section. Woo teaches a digital processing section (111 and 112), coupled to the RF Front End. It would have been obvious to incorporate such a teaching in Tso so as to provide the receiver with the capability to process the received signal so as to recover the original signal.

Claim 1 is encompassed by claim 21

Claim 2 is encompassed by claim 2.

Claim 3 is encompassed by claim 3.

Claim 4 is encompassed by claim 5.

Claim 6 is encompassed by claim 6.

Claim 12 is encompassed by claim 7.

Claim 13 is encompassed by claim 8.

Claim 14 is encompassed by claim 9.

Claim 15 is encompassed by claim 10.

Claim 16 is encompassed by claim 11.

Claim 17 is encompassed by claim 12

Claim 18 is encompassed by claim 20.

Claim 16 is encompassed by claim 12. The analysis made in reference to claim 1 above applies.

As per claim 5, it would have been obvious to one skill in the art to set the frequency acquisition to approximately equal to 37.3333f0, where f0=1.023MHz so as to satisfy system design requirements.

As per claim 7, it would have been obvious to one skill in the art to set the GPS clock signal to approximately equal to 48f0, where f0=1.023MHz so as to satisfy system design requirements.

Response to Arguments

7. Applicant's arguments filed 2/1/06 have been fully considered but they are not persuasive. It is alleged that the combination and the knowledge of configuring lacks any motivation for making the combination. However it is noted that office action sets clearly the motivation as to why the combination can be made. In addition, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness

is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). For the sake of argument, note US patent No. 6,262,623 that teaches the advantage of using passive filter over active filter. Applicant's further argues that the reference teach away from using an active filter. As noted in the office action, examiner maintains that implementing the filter of Woo as an active filter would have been obvious for the reason sets forth above.

Applicant's further alleged that the double patenting rejection based on the combination of two references is improper. Applicant is directed to MPEP section 804 (II-B), that clearly states that the "obviousness type double patenting is analogous to the nonobviousness requirement of 35 USC 103 and therefore follow the same factual inquiries set forth in Graham V. John Deere Co.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jean B Corrielus
Primary Examiner
Art Unit 2637
3-17-06